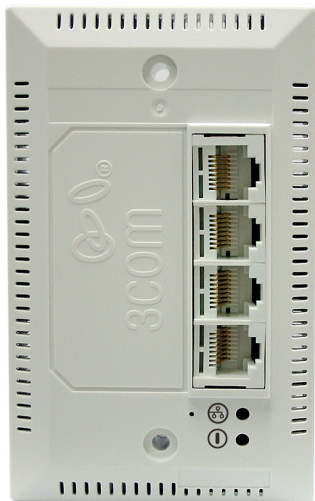# NJ90
Network Jack

User Guide

3CNJ90

3com | User Guide

NJ90 Network Jack

3CNJ90
4–port 10/100 Mbps Unmanaged
Ethernet Switch

Table of Contents

Contents

Appendix

List of Illustrations

NJ90 User Guide

The 3Com® Network Jack is a platform that provides connectivity at the edge of the network infrastructure. The NJ90 Network Jack, is a member of this family of products.

The NJ90 Network Jack is a 4-port, un-managed Fast Ethernet switch that fits into most standard data port openings.

The NJ90 Network Jack quadruples port connections where a single port (and cable) already exists in the wall. Expanding port connections with the 3Com Network Jack is a less expensive and less disruptive alternative to running additional cabling. Also, the 3Com Network Jack is installed in the wall, making it more secure and out of the way than deploying a remote desktop switch.

The NJ90 Network Jack allows up to four networking devices, such as computers, printers, Voice over IP (VoIP) telephones, and scanners, each to be connected to the network via its own Ethernet port.

The NJ90 needs no software to operate and no configuration. All ports feature 10/100 Mbps auto-negotiation, which configures the NJ90 Network Jack for 10 Mbps or 100 Mbps connections automatically.

Before you begin installation, register your product at:
www.3com.com/support

1. NJ90 Package Contents

– Single Pack & Multi Pack

The NJ90 Network Jack is available in single and 20-packs. Before you begin the installation, make sure you familiarize yourself with the following items, which are included with the NJ90:

- NJ90 Unit
- 6x32 screws (2 per NJ90) for mounting the NJ90 to the wall or office cubicle
- RJ-45 Male-to-Male coupler cable (1 per NJ90) for connecting the NJ90 unit to the Network Ethernet cable (required only in case your network cable is terminated with a female RJ-45 connector)
- User Guide (1 per package)

2. NJ90 Description

The following diagram shows the front view and the rear view of the NJ90 (see descriptions below)
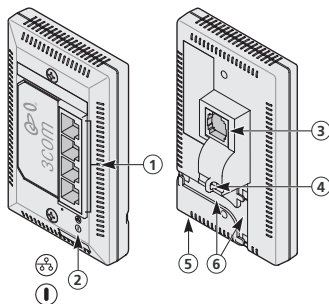
Figure 1 – NJ90 Feature Description

1	Four Switching Ports	Allow up to four devices to be connected to the network.
2	LED's	⊕ Indicates network connection and activity status. ① Indicates NJ90 power status.
3	Uplink Port	Connects NJ90 to the Network cable
4	Hook	Secure the Coupler Cable with a tie-wrap
5	Power socket	NJ90 can be powered from a local power supply (available for purchase separately from 3Com)
6	Strain Relief Channel	Strain Relief Channel for the Local Power Cord

3. NJ90 Installation

3.1 Install the NJ90 Network Jack.

3.2 Set up the power supply

3.1 – Install the NJ90 Network Jack
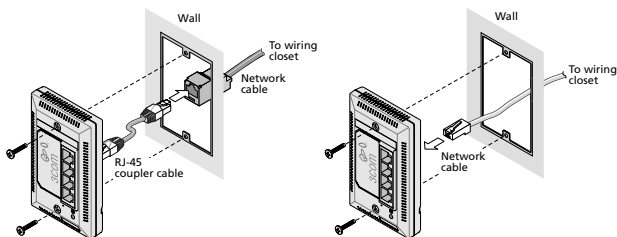
Figure 2 – NJ90 Installation

Step 1:

If the end of the network cable from the wiring closet is terminated with a female RJ-45 connector, use the RJ-45 coupler cable included in the package to connect the Network jack to the network cable (recommended installation).

or

If the end of the network cable from the wiring closet is terminated with a male RJ-45 connector, connect the network cable directly into the NJ90 uplink port.

Step 2: (Optional)

Thread a tie-wrap around the hook at the back and secure the RJ-45 coupler cable/Network cable.

Step 3:

Mount the NJ90 Unit to the Wall or Cubicle Outlet with the screws provided.

3.2 – Set up the power supply :

Selecting the power scheme and installing it:

See Appendix C: Setting up the Power Supply (p.8).

You can verify the NJ90 Network Jack Installation by checking the LED's.

LED	Description
(Lan)	· On – The NJ90 is connected to the network and a link has been established. · Blinking – Network Activity. · Off – There is no connection to the network.
(Power)	· On – The NJ90 is receiving power (local or via the network). · Off – The NJ90 is not receiving power.

Appendix A: NJ90 Specifications

The NJ90 is a 4-port, un-managed Fast Ethernet switch that fits into most standard data port openings. The NJ90 allows up to four networking devices, such as computers, printers, Voice over IP (VoIP) telephones, and scanners, to be connected to the network via one Ethernet port.

The NJ90 needs no software to operate and requires no configuration. All ports feature 10/100 Mbps auto-negotiation, which configures the NJ90 for 10 Mbps or 100 Mbps connections automatically.
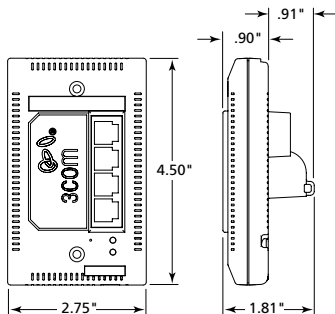
Figure 3 – NJ90 Dimension

Hardware	
NJ90 Power consumption	5 watts (max.)
Network Interface	
10 Mbps Ethernet 10BASE-T	Ethernet IEEE 802.3 industry standard for a 10 Mbps baseband CSMA/CD local area network
100 Mbps Ethernet 100BASE-TX	Ethernet IEEE 802.3u industry standard for a 100 Mbps baseband CSMA/CD local area network

Performance	
Auto-negotiation	Communication speed (10 Mbps or 100 Mbps) and duplex mode (full or half) is determined through auto-negotiation with the attached devices. The NJ90 attempts to negotiate the fastest connection possible (100 Mbps full-duplex).
Environment	
Operating temperature	32° to 95° F (0° to 35° C)
Storage temperature	–22° to 194° F (–3°– to 90° C)
Operating humidity	10–90% non-condensing
Storage humidity	10–90% non-condensing
Operating Altitude	8,000 ft
Storage Altitude	20,000 ft
Standards Conformance	
IEEE 802.3 10BASE-T, 100BASE-TX and auto-negotiation	
Power Over Ethernet: IEEE 802.3af	
Packet Prioritization: 802.1p (QoS)	
Features	
Power Over Ethernet	Compatible with IEEE 802.3af
Local power supply	Required for networks that do not support Power Over Ethernet
Voice Over IP (VoIP)	Compatible with VoIP standard.

Appendix B: Wall Outlet Dimensions

Make sure the wall or cubicle opening where the NJ90 is being installed complies with the NEMA-WD6 standard, as described below.
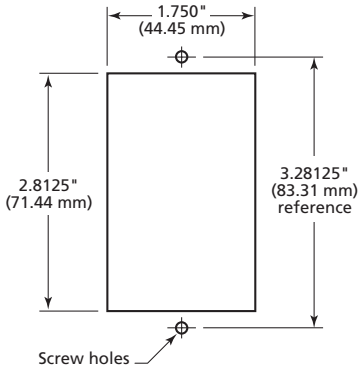
Figure 4 - Wall Outlet (NEMA-WD6) Dimensions

Appendix C: Setting up the Power Supply

Power to the NJ90 can be supplied one of the following ways:
1. Over the network via an integrated switch that supports Power over Ethernet.
2. Over the network via a multi-port Ethernet power supply.
3. Over the network via a single-port Ethernet power supply.
4. Locally via a 3Com local power supply.

Before you begin the installation, determine which type of power supply the NJ90 will use.

> **NOTE:** For a list of power supplies that support the NJ90, go to www.3com.com

> **CAUTION: ONLY** use the local power supply available from 3Com. Failure to do so may result in damage to the NJ90 Network Jack, or may result in a hazardous situation.

1) Using an Integrated Switch with Power over Ethernet

You must have a switch on the network that provides Power over Ethernet, compliant to the IEEE 802.3af standard.
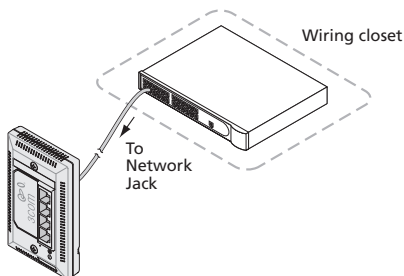
Figure 5 – Using an Integrated Switch with Power over Ethernet

2) Using a Multi-port Ethernet Power Supply

To use a multi-port Ethernet power supply, you must connect the power supply to your network, as shown in figure 6 on page 9.

The multi-port Ethernet power supply from 3Com connects to an existing Ethernet or Fast Ethernet infrastructure with standard Category 5 or Category 5e UTP cabling, and powers up to 24 NJ90 Network Jacks.
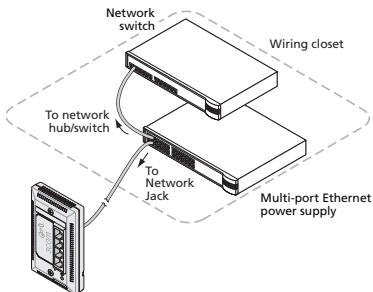
Figure 6 – Using a Multi-port Ethernet Power Supply

3) Using a Single-port Ethernet Power Supply

To use a single-port Ethernet power supply, connect the power supply to the network hub or switch and to the NJ90, as shown in figure 7.
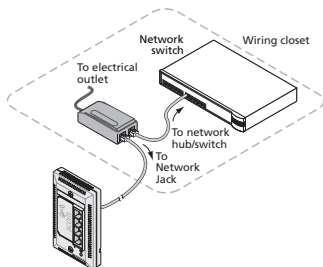
Figure 7 – Using a Single-port Ethernet Power Supply

4) Using the 3Com Local Power Supply

If your network does not support Power over Ethernet, or if you are not using a single-port or multi-port Ethernet power supply, you must purchase a local power supply from 3Com. To use the local power supply, make sure you have an electrical outlet near the site where the NJ90 will be installed.
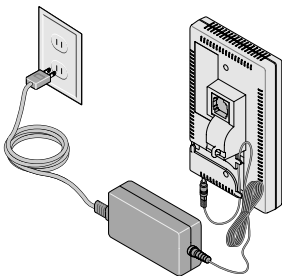
Figure 8 – Using the 3Com Local Power Supply

Installation Instructions:

1. Plug the power cable into the Network Jack.
2. Route the power cable through the stain relief fixture.
3. Secure the local power supply and cable to the wall.
4. Plug the Local Power Supply into the power source.

i **NOTE:** Completing these procedures in sequence will reduce issues during the installation process.

The NJ90 works with the following Power Supplies. Updated information is available online at www.3com.com/products

Component	Purpose	3C Number(s)
Integrated Switch with Power over Ethernet	For providing Power over Ethernet to power up to 24 NJ90's	3C17205
Multi-port Ethernet power supply (Uses Spare Pairs)	For providing Power Over Ethernet to power up to 24 NJ90s.	3CNJPSE24
Single-port Ethernet power supply (Uses Spare Pairs)	For providing Power over Ethernet to power a single NJ90.	3CNJPSE
Local power supply	For locally powering a single NJ90; required if your network does not support Power Over Ethernet.	3CNJPSL

Appendix D: Setting up the Network Cabling at Your Site

The network cabling at your site (from the wiring closet to the wall or cubicle opening) may already be installed. If it is not, install the cabling following these general guidelines.

> ⚠ **CAUTION:** It is recommended that a professional cable installer perform these procedures. Be sure to adhere to local safety and regulatory codes during the cable installation.

1. Connect one end of an Ethernet cable to your network. Usually, this connection is done in the Network wiring closet, via the patch panel.

2. Terminate the other end of the cable at the location where the NJ90 is being installed using a female RJ-45 connector. Refer to the connector manufacturer's instructions for terminating the cable. Be sure to test the connector and verify it is working.

To ensure proper horizontal cabling functionality, adhere to the following network cabling standards during installation:

-   ANSI/TIA/EIA-568 *Commercial Building Telecommunications Cabling Standard*

-   ANSI/TIA/EIA-569 *Commercial Building Standard for Telecommunications Pathways and Spaces*

Appendix E: Troubleshooting the NJ90

If you encounter problems with the NJ90:

1. Verify the NJ90 is receiving power by viewing the Power LED (it should be lit). If the Power LED is not lit, make sure:

    *   The other end of the network cable is plugged into a system that provides Power over Ethernet according to IEEE 802.3af, if using Power over Ethernet.

    *   The Local Power Supply is plugged into the NJ90 and into a working electrical outlet, if using Local power supply.

2. Verify the NJ90 is connected to the network properly by viewing the Link LED (it should be lit). If the Link LED is not lit, make sure the network cable:

    *   Is terminated properly. Refer to the connector manufacturer's instructions for terminating the cable. Be sure to test the connector and verify it is working.

    *   Has a valid connection to the network.

    *   Adheres to proper length and cabling specifications for your network.

3. Make sure the port on the switch to which the NJ90 is connected is configured as a standard MDI-X port. Make sure all cables connecting the NJ90 to the patch panel are straight-through cables (not crossover cables).

Appendix F: Contacting Technical Support

3Com provides easy access to technical support information through a variety of services. This section describes these services. Information contained in this section is correct at time of publication. For the most recent information, 3Com recommends that you access the 3Com Corporation World Wide Web site: www.3com.com.

90 Day Free Installation Support

3Com provides free installation and troubleshooting telephone support for this product for 90 days from the date of purchase. Hours of operation are subject to change. See "Support from 3Com" on page 15.

Online Technical Services

3Com offers worldwide product support 24 hours a day, 7 days a week, through the following online systems:

• World Wide Web site
• 3Com Knowledgebase Web Services

World Wide Web Site

To access the latest networking information on the 3Com Corporation World Wide Web site, enter this URL into your Internet browser: http://www.3com.com/
This service provides access to online support information, such as technical documentation and a software library, as well as support options that range from technical education to maintenance and professional services.

3Com Knowledgebase Web Services

This interactive tool contains technical product information compiled by 3Com expert technical engineers around the globe. Located on the World Wide Web at http:// knowledgebase. 3com.com, this service gives all 3Com customers and partners complementary, around-the-clock access to technical information on most 3Com products.

Support from Your Network Supplier

If you require additional assistance, consult your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training, and support services.

When you contact your network supplier for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

If you are unable to consult your network supplier, see the following section on how to contact 3Com.

Support from 3Com

If you are unable to obtain assistance from the 3Com online technical resources or from your network supplier, 3Com offers technical telephone support services. To find out more about your support options, call the 3Com technical telephone support phone number: 847 262 0070

When you contact 3Com for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

Returning Products for Repair

Before you send a product directly to 3Com for repair, you must first obtain an authorization number. Products sent to 3Com without authorization numbers will be returned to the sender unopened, at the sender's expense. To obtain an authorization number, call: 847 262 0070

3Com Corporation
LIMITED WARRANTY

The 3Com Corporation Limited Warranty and the Other Services described in this document supersede any such information that may be contained within your product user documentation.

This warranty applies to customers located in the United States, Australia, Canada (except Quebec), Ireland, New Zealand, U.K., and other English language countries, and countries for which a translation into the local language is not provided

HARDWARE: 3Com warrants to the end user ("Customer") that this-hardware product will be substantially free from material defects in workmanship and materials, under normal use and service, for the following length of time from the date of purchase from 3Com or its authorized reseller:

Two (2) Years

3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products or parts may be new or reconditioned. 3Com warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

SOFTWARE: 3Com warrants to Customer that each software program licensed from it, except as noted below, will, if operated as directed in the user documentation, substantially achieve the functionality described in the user documentation for a period of ninety (90) days from the date of purchase from 3Com or its authorized reseller. No updates or upgrades are provided under this warranty. 3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to refund the purchase price for the software product or replace the software product with software which meets the requirements of this warranty as described above. Customer assumes responsibility for the selection of the appropriate programs and associated reference materials.

3Com makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with 3Com's published specifications or user manual.

THIS 3COM PRODUCT MAY INCLUDE OR BE BUNDLED WITH THIRD PARTY SOFTWARE. THE WARRANTY PROVISIONS OF THIS DOCUMENT DO NOT APPLY TO SUCH THIRD PARTY SOFTWARE. IF A SEPARATE END USER LICENSE AGREEMENT HAS BEEN PROVIDED FOR SUCH THIRD PARTY SOFTWARE, USE OF THAT SOFTWARE WILL BE GOVERNED BY THAT AGREEMENT. FOR ANY APPLICABLE WARRANTY, PLEASE REFER TO THE END USER LICENSE AGREEMENT GOVERNING THE USE OF THAT SOFTWARE.

OBTAINING WARRANTY SERVICE: Customer must contact a 3Com Corporate Service Center or an Authorized 3Com Service Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from 3Com or its authorized reseller may be required. A User Service Order (USO), Return Material Authorization (RMA) or Service Repair Order (SRO) number will be issued. This number must be marked on the outside of the package sent to 3Com's Corporate Service Center. The product must be packaged appropriately for safe shipment and sent prepaid. It is recommended that returned products be insured or sent by a method that provides for tracking of the package. Responsibility for loss or damage does not transfer to 3Com until the returned item is received by 3Com. 3Com will retain risk of loss or damage until the item is delivered to Customer. For non-US Customers, the word 'prepaid' shall be omitted where this requirement is not permitted by law. The allocation of responsibility for loss or damage stated shall be subject to any mandatory legal requirements.

3Com shall not be responsible for any software, firmware, information, or memory data of Customer contained in, stored on, or integrated with any products returned to 3Com for repair, whether under warranty or not.

18

WARRANTIES EXCLUSIVE, WARRANTY DISCLAIMER: TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REM-EDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES, TERMS OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATIS-FACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, NON-INFRINGEMENT AND QUIET ENJOYMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. 3COM NEITHER ASSUMES NOR AUTHO-RIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF THIS PRODUCT.

3COM SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT OR MAL-FUNCTION IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLECT, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO OPEN, REPAIR OR MODIFY THE PRODUCT, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHT-NING, POWER CUTS OR OUTAGES, OTHER HAZARDS, OR ACTS OF GOD.

LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW, 3COM ALSO EXCLUDES FOR ITSELF AND ITS LICENSORS AND SUPPLI-ERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFOR-MATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF 3COM OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT 3COM'S OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Some countries, states, or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers,

or the limitation of liability for death or personal injury, so the above limitations and exclusions may be limited in their application to you. When the implied warranties are not allowed to be excluded in their entirety, they will be limited to the duration of the applicable written warranty. This warranty gives you specific legal rights which may vary depending on local law.

GOVERNING LAW: This Limited Warranty shall be governed by the laws of the State of California, U.S.A., and by the laws of the United States, excluding their conflicts of laws principles. The United Nations Convention on Contracts for the International Sale of Goods is hereby excluded in its entirety from application to this Limited Warranty.

3Com Corporation, 5400 Bayfront Plaza, P.O. Box 58145, Santa Clara, CA 95052-8145 (408) 326-5000
Rev. 10/01/2002

Register Online: When you first call 3Com, we will collect customer and product information from you to determine warranty status. You can eliminate this step and speed your access to technical support by registering on-line at http://support.3com.com/registration/frontpg.pl